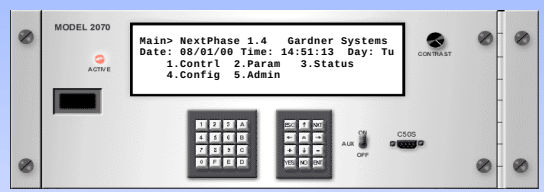
SESSION 1.2

2070 OPERATING SYSTEM



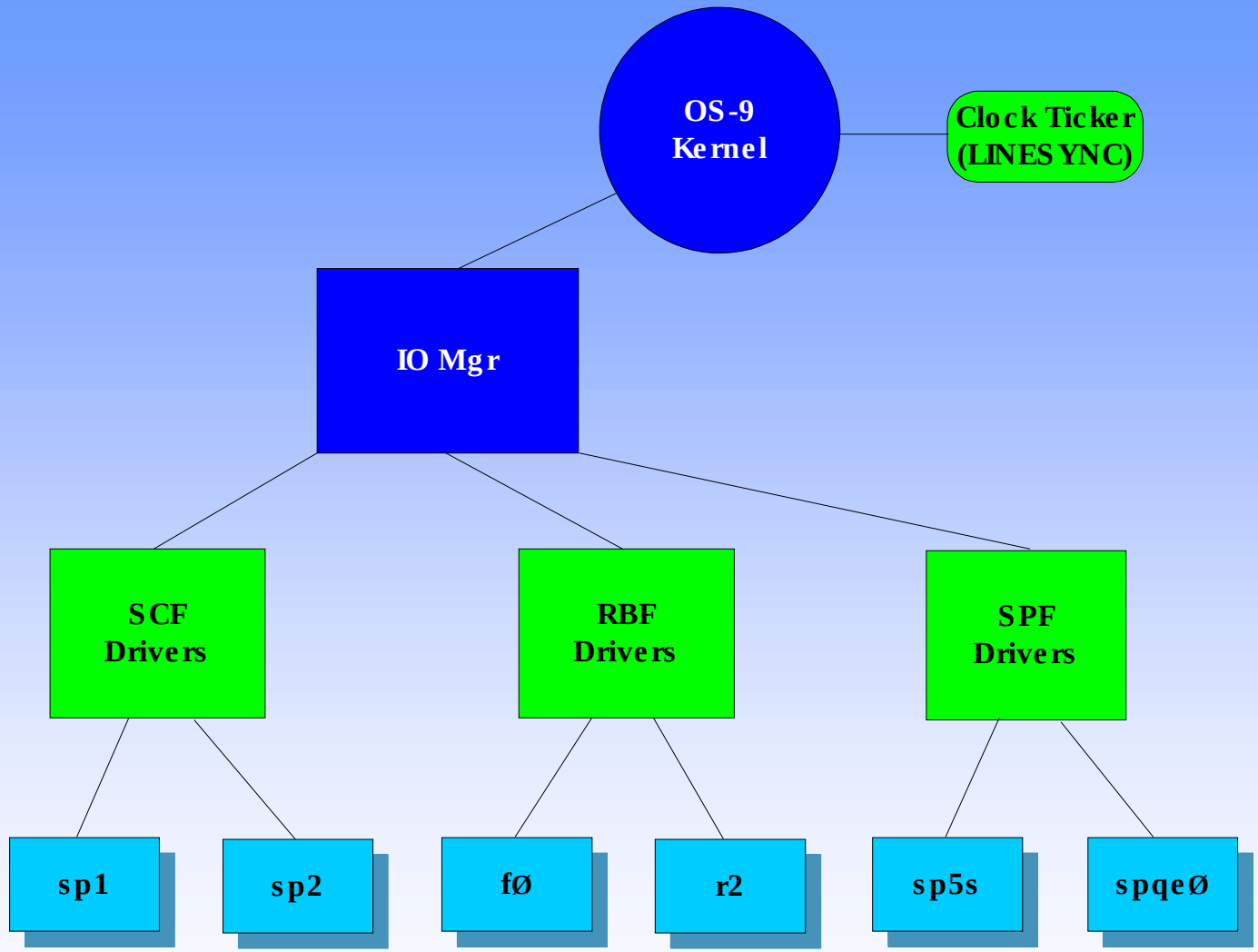
CRAIG GARDNER

OPERATING SYSTEM

- OS-9 RTOS by Microware
- Device driver API layer
  - Allows applications portability to any 2070
  - Simplifies access to controller features
  - Support for ATC API with compatible library

OS-9 RTOS

. REAL-TIME KERNEL
. UNIFIED I/O
. MULTI-TASKING
. UNIX-LIKE API
. HAWK DEVELOPMENT IN C, C++


OS-9
Kernel
Clock Ticker
(LINESYNC)
IO Mgr
SCF
Drivers
RBF
Drivers
SPF
Drivers
sp1
sp2
fØ
r2
sp5s
spqeØ

DEVICE DRIVERS

- **Storage:** Non-volatile & volatile Ramdisks
- **Comms:** Synchronous & Asynchronous serial
- **Clock/Timers:** Calendar / DST; hardware timers; clock synchronization
- **Peripheral Devices:** LCD display; activity LED; field I/O; power fail handling
- **Network:** Ethernet

EXAMPLE “C” CODE SAMPLE

- **Open the LED device named “/led”**

```
_os_open(“/led”, S_IREAD/S_IWRITE, &led_path);
```

- **Turn on LED device**

```
char led_state = 1;        /* state = ON */
u_int32 count = 1;         /* send one byte to driver */
_os_write(led_path, &led_state, &count);
```

- **Turn off LED device**

```
led_state = 0;
count = 1;
_os_write(led_path, &led_state, &count);
```

- **Close LED device**

```
_os_close(led_path);
```

Application Programming Interface